

**REMARKS**

Claims 1-20 are pending in the application. Claims 8-14 are withdrawn from consideration. Claim 17 is rejected under 35 U.S.C. § 102(b) as being anticipated by Potsch *et al.* (U.S. Patent No. 3,788,180; hereinafter “Potsch”). Claims 1, 2, 15 and 16 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Potsch in view of Falk *et al.* (U.S. Patent No. 3,292,478; hereinafter “Falk”). Claims 3 and 7 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Potsch in view of Falk and further in view of DeTorre (U.S. Patent No. 5,423,240; hereinafter “DeTorre”). Claim 4 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Potsch in view of Falk and further in view of Munier *et al.* (U.S. Patent No. 5,365,821; hereinafter “Munier”). Claim 5 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Potsch in view of Falk and further in view of Munier and Paavola (U.S. Patent No. 4,972,750; hereinafter “Paavola”). Claims 6 and 18 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Potsch in view of Takagi (U.S. Patent No. 6,033,057; hereinafter “Takagi”). Claims 19 and 20 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Potsch in view of Surina (U.S. Patent No. 6,205,898; hereinafter “Surina”). Applicant submits the arguments below in traversal of the claim rejections.

**Rejection of Claim 17 under § 102(b) by Potsch**

Applicant respectfully submits that claim 17 is patentable because Potsch fails to disclose or even suggest a drum-shaped rotary blade, as recited in the claim. Instead, Potsch discloses an anvil 53 which is entirely different from the claimed drum-shaped rotary blade. For example, the drum-shaped rotary blade makes it possible to achieve more precise severance surfaces by cutting of a workpiece while supporting and feeding the workpiece with the outer circumference

of the rotary drum. In contrast, the anvil 53 of Potsch is not capable of the above. Thus, the anvil 53 cannot correspond to the claimed drum-shaped rotary blade.

In addition, Applicant submits that Potsch fails to disclose or suggest means for transmitting driving force between the drum shaft and the disk shaft. On page 8 of the current the Office Action, the Examiner states that “the shafts of Potsch *et al.* may not be driven by the same driving means but they are rotating at the same time making them in unison.” Assuming *arguendo*, that the shafts in Potsch are rotated at the same time, Potsch does not disclose the claimed *means for transmitting driving force between the drum shaft and the disk shaft* and the Examiner concedes to the uncertainty of the disclosure of the claimed means for rotating in Potsch. In fact, as clearly pointed out in the Amendment of July 14, 2005, Potsch discloses having a rotating drive shaft of the anvils 43 and a fixed knife support bar 61.

Therefore, for at least the above reasons, claim 17 is patentable.

Rejection of Claims 1, 2, 15, and 16 under § 103(a) over Potsch in view of Falk

Applicant submits that claim 1 is also patentable because Potsch fails to disclose or even suggest a drum-shaped rotary blade, as recited in the claim, and because Falk fails to make up for the deficiencies of Potsch. As mentioned above, the anvil 53 of Potsch cannot correspond to the claimed drum-shaped rotary blade, and thus, Potsch and Falk fail to teach, suggest or provide motivation for the claimed drum-shaped rotary blade.

Claim 1 is also patentable because Potsch in view of Falk fail teach, suggest or provide motivation for the slitte blade assembly including a disk-shaped rotary blade having a cutting edge, a first beveled surface facing said drum-shaped rotary blade and progressively spaced from said drum-shaped rotary blade toward said cutting edge, and a second beveled surface facing the

workpiece and progressively spaced from said cutting edge away from the workpiece, wherein a first distance (CL) of said first beveled surface up from said cutting edge along a severance plane perpendicular to a surface of the workpiece is set to a value which ranges from  $40\mu\text{m}$  to  $200\mu\text{m}$  and a first angle ( $\theta$ ) of said first beveled surface from said severance plane is set to a value which ranges from 0.8 to 14.

In the Office Action, the Examiner concedes that Potsch fails to disclose a first distance (CL) of the first beveled surface up from the cutting edge along the severance plane perpendicular to a surface of the work piece is set to a value which ranges from  $40\mu\text{m}$  to  $200\mu\text{m}$ . Although Falk still does not disclose the claimed first distance (CL), the Examiner argues that it would have been obvious to reduce the heights B and C of Falk to disclose the claimed first distance. As noted in the previous Office Action, modification of the heights B and C of Falk would necessarily alter the geometry of the knife of Falk such that the resultant combination of angles u and r would be outside the preferred range. The modification suggested by the Examiner effectively teaches away from the teachings of Falk and thus, one skilled in the art would not combine the teachings of Potsch and Falk to render claim 1 obvious.

Therefore, for at least the above reasons, claim 1 is patentable.

Claims 2, 15 and 16 are patentable for at least the reasons submitted for claim 1.

In addition, the Examiner still has not shown how the combination of Potsch and Falk renders claim 2 is unpatentable. Falk teaches that the sum of the angles u and v is between  $50^\circ$ - $60^\circ$  and that each of the angles u and v are preferably at least  $25^\circ$ - $30^\circ$ . See col. 1, lines 60-62. Therefore, Falk teaches away from having a second beveled surface from said severance plane set to a value which ranges from  $65^\circ$  to  $85^\circ$ .

Rejection of Claims 3 and 7 under § 103(a) over Potsch in view of Falk and further in view of DeTorre

Claims 3 and 7, which depend from or ultimately depend from claim 1, are patentable for at least the reasons submitted for claim 1 and because DeTorre fails to make up for the deficiencies of Potsch and Falk.

Rejection of Claim 4 under § 103(a) over Potsch in view of Falk and further in view of Munier

Applicant submits that claim 4, which ultimately depends from claim 1, is patentable for at least the reasons submitted for claim 1 and because Munier fails to make up for the deficiencies of Potsch and Falk.

Rejection of Claim 5 under § 103(a) over Potsch in view of Falk and Munier and in further view of Paavola

Applicant submits that claim 5, which ultimately depends from claim 1, is patentable for at least the reasons submitted for claim 1 and because Munier and Paavola fail to make up for the deficiencies of Potsch and Falk.

Rejection of Claims 6 and 18 under § 103(a) over Potsch in view of Takagi

Applicant submits that claim 6 is patentable because a prima facie case of obviousness was not established. The cutting edge of the disk-shaped rotary blade having irregularities along a circumference of the disk-shaped rotary blade, said irregularities having an irregularity quantity (G) set to a value which ranges from 0.5  $\mu\text{m}$  to 5  $\mu\text{m}$ , is one of the inventive aspects. The Examiner still has not provided prior art to support the Official Notice alleging that such claimed features are well known in the art.

In fact,

[i]t would not be appropriate for the examiner to take official notice of facts without citing a prior art reference where the facts asserted to be well known are not capable of instant and unquestionable demonstration as being well-known.

MPEP § 2144.03 (emphasis added).

Here, the disk-shaped rotary blade having irregularities in the manner claimed is an aspect of the invention that cannot be instantly or unquestionably demonstrated as being well-known. Hence, it is incumbent on the Examiner to provide prior art to support the Official Notice.

Rejection of Claims 19 and 20 under § 103(a) as being unpatentable over Potsch in view of Surina

Claims 19 and 20, which depend from claim 17, are patentable for at least the reasons submitted for claim 17 and because Surina fails to make up for the deficiencies of Potsch.

In addition, incorporating the gears of Surina into the teachings of Potsch would entirely change the principle of operation of Potsch. Not only is the knife support bar 61 fixed, the knife 52 is disposed at an angle to the lower anvil 53, as clearly shown in Fig. 6. Because the axis of rotation of the knife 52 is off by about 0.5 degrees from the axis of rotation of the lower anvil 53, as shown in Fig. 6, any rotation of the knife 52 and the lower anvil 53 would not allow for the continuous cutting of the material.

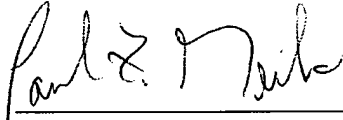
In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the

AMENDMENT UNDER 37 C.F.R. §1.116  
U.S. APPLN. NO.: 09/843,765

Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,

  
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